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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,040	08/29/2003	Toshiaki Anzaki	2986-0122P	8522

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EXAMINER

WATKINS III, WILLIAM P

ART UNIT PAPER NUMBER

1772

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/651,040

Applicant(s)

ANZAKI ET AL.

Examiner

William P. Watkins III

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 32-35 is/are pending in the application.
- 4a) Of the above claim(s) 1-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-30 and 32-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The rejections under 112 in section 3 of the office action mailed 10 May 2005 are withdrawn in view of applicant's amendments to the claims.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 28-30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Schneemeyer et al. (U.S. 5,912,797).

See col. 6, lines 15-35 which discloses a composite target of zirconium and tin for a sputter gun with 20% tin. The instant specification at Embodiments 7 and 8, page 12 disclose targets with tin and zirconium compositions. The target of Schneemeyer et al. is taken as having a similar performance since it has a similar composition to that which enables the instant specification. As a matter of claim construction the examiner takes the phrase "wherein a main material of the

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zirconium target containing the metal is a least of one metallic zirconium" in instant claim 28, as a target where metallic zirconium is more than a trace component. The atomic 20% zirconium in the target of the reference is taken as meeting this limitation.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneemeyer et al. (U.S. 5,912,797).

Schneemeyer et al. teaches at col. 6, lines 65-69 using a small amount of magnesium or calcium in the target in order to compensate for oxygen traps. The instant invention claims a target with a third metal that may be magnesium or calcium. It would have been obvious to one of ordinary skill in the art to include a small amount of magnesium or calcium in the target of

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Schneemeyer et al. in order to compensate for oxygen traps because of the teachings of Schneemeyer et al.

6. Claims 28-30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartig et al. (U.S. 5,403,458).

Hartig et al. discloses making a target that deposits nonconductive films with a conductive dopant such as indium or tin in an amount less than 50%, in order to enhance the speed of deposition by limiting anode reconditioning (abstract, col. 7, line 10-25, col. 8, lines 1-15). Zirconium oxide maybe such a nonconductive film (col. 6, lines 40-45). Oxides may be sputtered themselves or the base metal may be sputtered in an oxygen reactive environment to deposit the oxide (col. 6, lines 30-35 and col. 5, lines 25-30). The instant invention claims a metal in a zirconium target that enhances the rate of deposition. It would have been obvious to one of ordinary skill of the art to have selected zirconium oxide from the listed possible deposited films and have used reactive zirconium metal in the target along with an indium or tin dopant in order to allow deposition of both conductive and nonconductive oxides because of the teachings of Hartig et al. These dopants are

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taught in the instant specification as increasing the rate of deposition (see Table 1).

7. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartig et al. (U.S. 5,403,458) as applied to claims 28-30 and 32 above, and further in view of Finley (U.S. 6,677,063).

Finley teaches deposition of a zirconium oxide film using a zirconium target that may have dopants such as magnesium, yttrium and calcium (col. 8, lines 25-38). The instant invention claims a zirconium target with a third metal. It would have been obvious to one of ordinary skill in the art to have used a calcium, magnesium or yttrium dopant in the deposited zirconium oxide film of Hartig et al. in order to stabilize or otherwise be deposited with the zirconium oxide film because of the teachings of Finley.

8. Applicant's arguments filed 09 November 2005 have been fully considered but they are not persuasive.

Applicant argues that claim 31 was not rejected in the first office action and that the limitations of that claim are now in claim 28 and should therefore render all of the claims

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allowable. The examiner disagrees. Claim 31 was withdrawn from consideration in section 2 of the detailed portion of the office action mailed 10 May 2005 and therefore not subject to rejection in that office action. The above rejections address claim 28 as amended by the incorporation claim 31 as well as the other claims that were withdrawn from consideration for being in improper dependent form.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Watkins III whose telephone number is 571-272-1503. The examiner works an increased flex time schedule, but can normally be reached Monday through Friday, 11:30 A.M. through 8:00 P.M. Eastern Time. The examiner returns all calls within one business day unless an extended absence is noted on his voice mail greeting.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WILLIAM P. WATKINS III
PRIMARY EXAMINER

WW/ww

January 22, 2006